Minimum Requirements for As-Built Plans for Storm Water Management BMP's*

1. **Basin Plan View**: Collect survey data and show the following:
    a. Sufficient spot elevations on the berm to outline the shape of basin (a minimum of one shot per 50 feet). The lowest points of the berm must be represented.
    b. Spot elevations of the top and bottom of each shoulder of the spillway.
    c. A minimum of two survey points documenting the elevation of any berm separating the basin forebay from the main pool.
    d. Outlines of riprap aprons or spillways.
    e. Topographic contours generated from the above data.
    f. Invert elevations of the basin outlet and inlet(s) (culvert inlet, culvert outlet, dewatering holes in risers, in-line weirs, etc.).
    g. The top elevation of any outlet riser.
    h. Measured internal diameters of culverts, risers, orifices, catch basins, and other flow-control devices.
2. **Basin Cross-Sections**: A minimum of two per basin, locations shown on plan, oriented in opposing directions, with the following spot elevations:
    a. The bottom of the berm backslope.
    b. The inside and outside edges of the top of the berm.
    c. The edge of the water.
    d. The inside and outside edges of the safety shelf.
    e. The bottom of the slope into the permanent pool.
    f. The top and sides of any berm dividing the basin.
    g. The same locations as above going out the other side of the basin.
    h. For clay liners, either show bottom elevations before and after liner is installed, or document liner thickness through soil core sampling (resealing sample holes).
    i. Synthetic liner material used, if any, with placement.
    j. Type of engineered fill material used if any, and top and bottom elevations of fill.
    k. Bottom and top elevations of stone trenches, risers, if applicable.
    l. Invert elevations and measured internal diameters of any buried pipes or tile lines.
3. **Conveyance Systems**: Collect survey data and show the following:
    a. One set of cross-sectional survey points per 100 feet of conveyance system (emergency spillways, rock chutes, grass swales, etc.). Includes a minimum of 3-4 survey points per cross-section: the tops of both banks and each side of channel bottom (flat) or center of channel ("v-bottom"), as per design.
    b. The invert elevations and pipe diameter for all road culverts/channel crossings.

** The purposes of these requirements are to verify that: 1) final construction meets approved engineering plans for each installed best management practice (bmp); 2) conveyance systems are fully connected to the storm water facilities; and 3) the geometry of channels and structures match the design parameters.*